



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,751	07/14/2003	Jari Takala	59643.00274	3152
32294	7590	02/05/2008		
SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182			EXAMINER	
			EVANS, KIMBERLY L	
			ART UNIT	PAPER NUMBER
			4143	
			MAIL DATE	DELIVERY MODE
			02/05/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/617,751	TAKALA, JARI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kimberly Evans	4143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 July 2003.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-15 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-15 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9/29/03 and 11/30/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

**Status of Claims**

1. This action is in reply to the application filed on July 14, 2003.
2. Claims 1-15 are currently pending and have been examined.

**Information Disclosure Statement**

3. The Information Disclosure Statements filed on September 29, 2003 and November 30, 2004 have been considered. An initialed copy of the Form 1449 is enclosed herewith.

**Claim Rejections - 35 USC § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
5. Claims 1-15 are rejected under 35 USC 102(a) as being anticipated by, Francis et. al., "Design Issues for Prepaid Data Service", June 2002.

**Examiner's Note:** The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

6. **Claim 1:** Francis et al as shown, discloses the following limitations,

- *a method for controlling prepaid data services*, (see at least page 2, Informational, 4<sup>th</sup> paragraph, last sentence: "...it describes the characteristics of a rich prepaid data service, and discusses design issues and possible solutions." *the prepaid data services being divided into at least two service groups criteria of different charging criteria in a network* (see at least page 4, definition: multi-source prepaid: "...this is where multiple services (data, voice, etc.) can be used from the same prepaid account")
- *reserving resources from a prepayment system*, (see at least page 3, definition of account: "...also called prepaid account, and balance: also called prepaid balance. This is the total amount of money that the user has put into his prepaid account", and Prepaid Application Database (PPDB): "....this is the database that stores the account balance for the user as well as which quotas have been allocated to which PUPs...")
- *setting, by a rating device*, (see at least page 4, definition of rating: "this is the act of translating between money and time or bytes usage") *an initial data delivery limit for each service group* (see at least page 4, definition of quota: "this is the amount of usage (time or bytes) that has been allocated by the PUP") *based on the resources and information about the charging criteria*, (see at least page 4, definition of Prepaid

Application Database (PPDB): "...conceptually this is the database that stores the account balance for the user as well as which quotas have been allocated...")

- *sending a message containing information about the initial data delivery limits from the rating device to a measuring device, (see at least Page 13, Advanced Capabilities, paragraph AC10: "...the PAS is able to request interim reports from the PUP to occur at specified usage levels....")*
- *allocating, in the measuring device, proportional data delivery limits for each service group individually, (see at least Page 4, definition of Prepaid Application Server (PAS): "...allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on....") and,*
- *reallocating, in the measuring device, remaining resources to the service groups based on pricing weights of the service groups to obtain new proportional data delivery limits for each service group individually, (see at least and page 13, first paragraph, last sentence: "...the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is, may be implemented...")*
- *the new proportional data delivery limits being for use in delivery of data after a service group has exceeded its proportional data delivery limit (see at least page 11, Basic Capabilities, BC10: "...the PAS can also tell the PUP what to do when the quota is reached...")*

7. **Claim 2:** Francis et al as shown, discloses the following limitations,

- *A method according to claim 1, comprising the further step of defining a proportional data delivery limit for each service group as a proportion of the initial data delivery limit (see at least Page 4, definition of usage session: "...it begins with authentication and initial allocation,..." and definition of Prepaid Usage Point (PUP): "...where usage is measured and enforced....")*

8. **Claim 3:** Francis et al as shown, discloses the following limitations,

- *A method according to claim 2, comprising the further step of defining a pricing weight for each service group as a proportion of a sum of the proportional data delivery limits to the initial data delivery limit of the service group.* (see at least Page 4, definition of quota: "...the amount of usage (time or bytes) that has been allocated to the PUP" and at least definition of usage session: "....usage extended over a period of time, during which the PAS allocates quotas...begins with authentication and initial allocation, and ends either when no more quotas are allocated, or..")

9. **Claim 4:** Francis et al as shown, discloses the following limitations,

- *A method according to claim 1, comprising the further step of sending a report from the measuring device to the rating device after all of the reserved resources are used.* (see at least Page 12, Advanced Capabilities: AC10: "...the PAS is able to request interim reports from the PUP....")

10. **Claim 5:** Francis et al as shown, discloses the following limitations

- *A method according to claim 1, comprising the further step of defining the initial data delivery limit as a volume equivalent to a same amount of money for each service group.* (See at least Page 4, definition of quota: "...the amount of usage (time or bytes) that has been allocated to the PUP." and, definition of Prepaid Application Server (PAS): "... allocates quotas to PUP, tells the PUP whether to allow or deny service..." and page 8, paragraph U2: "...the user is able to use each service as much as or as little as ....")

11. **Claim 6:** Francis et al as shown, discloses the following limitations

- A system for controlling prepaid data services comprising a prepayment system hosting prepaid resources, (see at least at least page 10, section AC03 and supporting rationale: "...the PUP can be configured with differential rating information for one or more of the four differential accounting types ....")
- a rating device configured to obtain information of the prepaid resources and of charging criteria of service groups to set initial data delivery limits for the service groups based on the obtained information, (see at least Page 4, definition of Prepaid Application Server (PAS):"...this is the box that runs (or talks to) the prepaid application and interacts with the PUP.....allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on....") and
- a measuring device configured to allocate proportional data delivery limits for each service group individually, to measure the use of each of the service groups (see at least Page 4, definition of Prepaid Usage Point (PUP): "...this is where usage is measured and enforced...") and to
- reallocate remaining free resources to the service groups based on pricing weights of the service groups (see at least Page 13, first paragraph, last sentence: "...the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is, may be implemented...") and to
- obtain new proportional data delivery limits for each service group individually for delivery of data when a service group exceeds its proportional data delivery limit (see at least page 11, Basic Capabilities, BC10: "...the PAS can also tell the PUP what to do when the quota is reached...")

12. **Claim 7:** Francis et al as shown, discloses the following limitations

- *A communication system configured for provision of prepaid services for the users thereof, the communication system comprising at least one data communication network, a prepayment system hosting prepaid resources, (see at least Page 1, Abstract, second paragraph: “..this paper discusses design issues for a protocol between a prepaid application and the network devices and other sources...”)*
- *a rating device configured to obtain information of the prepaid resources and of charging criteria of service groups and to set initial data delivery limits for the service groups based on the obtained information, (see at least Page 4, definition of Prepaid Application Server (PAS): “...this is the box that runs (or talks to) the prepaid application and interacts with the PUP.....allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on....”) and*
- *a measuring device configured to allocate proportional data delivery limits for each service group individually, to measure the use of each of the service groups (see at least Page 4, definition of Prepaid Usage Point (PUP): “...this is where usage is measured and enforced...”) and to*
- *reallocate remaining free resources to the service groups based on pricing weights of the service groups (see at least Page 12 first paragraph, last sentence: “....the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is, may be implemented...”)* to
- *obtain new proportional data delivery limits for each service group individually for delivery of data when a service group exceeds its proportional data delivery limit (see at least Page 4, definition of Prepaid Usage Point (PUP): “...this is where usage is measured and enforced. The PUP receives quotas from the PAS, and either allows or denies usage to the user.”)*

13. **Claim 8:** Francis et al as shown, discloses the following limitations

- *A communication system in accordance with claim 7, wherein the at least one data communication network comprises a packet core communication network for communication of data between users and the measuring device (see at least Page 7, section 4.1, Basic Usage Scenarios, paragraph U1.d: "Data, voice, and other "higher level" data services...." and page 9, paragraph 5.1 Operational, Basic capabilities, BC03: "...the PUP is able to identify which packets...")*
- *A public data network for communication of data between the measuring device and providers of the prepaid services. (see at least Page 3, Terminology, definition of Data Session: "...a session (tunnel) between the User Equipment and a prepaid usage point (PUP) that is a data router or switch.." Wherein a data router is described as a device that forwards data packets between computer networks.*

14. **Claim 9:** Francis et al as shown, discloses the following limitations

- *A controller for controlling prepaid data services, the prepaid data services being divided into at least two service groups of different charging criteria in a network, the controller comprising: reserving means for reserving resources from a prepayment system, (see at least Page 4, definition of Prepaid Application Server (PAS): "...this is the box that runs (or talks to) the prepaid application and interacts with the PUP.....allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on...." and page 12, first paragraph, last sentence: "...the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is, may be implemented...")*
- *setting means for setting, by a rating device, an initial data delivery limit for each service group based on the resources and information about the charging criteria, (see at least Page 4, definition of Prepaid Application Server (PAS): "...allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on...." and,*

see at least Page 3, definition of quota: “..this is the amount of usage (time or bytes) that has been allocated by the PUP”)

- *sending means for sending a message containing information about the initial data delivery limits from the rating device to a measuring device, (see at least Page 13, Advanced Capabilities, paragraph AC10: “...the PAS is able to request interim reports from the PUP to occur at specified usage levels....”)*
- *allocating means for allocating, in the measuring device, proportional data delivery limits for each service group individually, (see at least Page 4, definition of Prepaid Application Server (PAS): “...allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on....”) and,*
- *reallocating means for reallocating, in the measuring device, remaining resources to the service groups based on pricing weights of the service groups to obtain new proportional data delivery limits for each service group individually, see at least Page 12, first paragraph, last sentence: “....the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is, may be implemented...”)*
- *the new proportional data delivery limits being for use in delivery of data after a service group has exceeded its proportional data delivery limit. (see at least Page 4, definition of Prepaid Usage Point (PUP): “..this is where usage is measured and enforced. The PUP receives quotas from the PAS, and either allows or denies usage to the user.”)*

15. **Claim 10:** Francis et al as shown, discloses the following limitations

- *A controller according to claim 9, further comprising defining means for defining a proportional data delivery limit for each service group as a proportion of the initial data delivery limit (see at least Page 4, definition of Prepaid Application Server (PAS): “...allocates quotas to PUP, tells the PUP whether to allow or deny service,*

and so on...." and, see at least Page 12, first paragraph, first sentence: "If on the other hand the PAS is able to shrink the size of an already allocated quota....")

16. **Claim 11:** Francis et al as shown, discloses the following limitations

- *A controller according to claim 10, further comprising second defining means for defining a pricing weight for each service group as a proportion of a sum of the proportional data delivery limits to the initial data delivery limit of the service group.* (see at least Page 4, definition of Prepaid Application Server (PAS): "...this is the box that runs (or talks to) the prepaid application and interacts with the PUP—ie allocates quotas to PUPs, tells the PUP whether to allow...")

17. **Claim 12:** Francis et al as shown, discloses the following limitations

- *A controller according to claim 9, further comprising sending means for sending a report from the measuring device to the rating device after all of the reserved resources are used.* (see at least Page 13, Advanced Capabilities, paragraph AC10: "...the PAS is able to request interim reports from the PUP to occur at specified usage levels....")

18. **Claim 13:** Francis et al as shown, discloses the following limitations

- *A controller according to claim 9, further comprising defining means for defining the initial data delivery limit as a volume equivalent to a same amount of money for each service group.* (see at least Page 4, definition of Prepaid Application Server (PAS): "...allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on...." and, see at least Page 12, first paragraph, first sentence: "If on the other hand the PAS is able to shrink the size of an already allocated quota....")

19. **Claim 14:** Francis et al as shown, discloses the following limitations

- *A rating device for controlling prepaid data services into at least two service groups of different charging criteria in a network, the rating device being configured to obtain information of prepaid resources reserved from a prepayment system of charging criteria of service groups of prepaid data services (see at least Page 4, definition of Prepaid Application Server (PAS): "...this is the box that runs (or talks to) the prepaid application and interacts with the PUP....allocates quotas to PUP, tells the PUP whether to allow or deny service, and so on...each PAS interfaces on the back end with a single Prepaid Application Database (PPDB))" and,*
- *to set initial data delivery limits for the service groups based on the obtained information and to send a message containing information about initial data delivery limits to a measuring device. (see at least Page 13, Advanced Capabilities, paragraph AC10: "...the PAS is able to request interim reports from the PUP to occur at specified usage levels....")*

20. **Claim 15:** Francis et al as shown, discloses the following limitations

- *A measuring device for controlling prepaid data services divided into at least two service groups of different charging criteria in a network, the measuring device being configured to allocate proportional data delivery limits for each service group individually, (see at least Page 10, AC03: "The PUP can be configured with differential rating information for one or more of the four differential accounting types under usage..." and see at least Page 10 AC03.1: "...the PAS conveys multiple quotas, one for each type of differential accounting....")*
- *to measure the use of each of the service groups (see at least Page 10, AC03, 2: "...the PUP is pre-configured with rating information for each user....and can apply this rating information to the quota conveyed to the PAS....") and*

- *to reallocate remaining free resources to the service groups based on pricing weights of the service groups* (see at least Page 13, first paragraph, last sentence: “the PAS should be able to shrink quotas so that the most efficient strategy, whatever it is may be implemented.”)
- *to obtain new proportional data delivery limits for each service group individually for delivery of data when a service group exceeds its proportional data delivery limit* (see at least Page 11, section 5.2, Performance, second paragraph: “....this increases performance demands on the PAS...and on the PADB (which must update the database after a quota allocation or usage report....) and Basic Capabilities: BC10: “...the PAS can also tell the PUP what to do when the quota is reached....”)

### Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- U.S. Patent No: US 6999449 B2, patent date February 14, 2006. Barna et al. "System and Method of Monitoring and Reporting Accounting Data based on Volume". Reference describes different aspects of a volume based system and method for monitoring and reporting accounting data in Internet Protocol based telecommunications networks while tracking the amount of data transferred during the session between the end user and data network.
- U.S. Patent Application Publication No: US2004/0049576A1, publication date March 11, 2004. Schweitzer et al. "Method and Apparatus for Session Reconstruction". Reference describes method and system for voice call prepaid accounts and other applications/sessions across multiple network devices to include detail records as it relates to varied protocol usage, monitoring of quality of service, and billing requirements.
- Schneiderman, Carla; "The Future Of Prepaid Services", Wireless Design & Development, Nov2000, Vol.9, Issue 11, p69,2p, 1 graph. Reference examines the future of prepaid wireless communication services in the United States. It identifies and emphasizes the importance and benefits of prepaid service across multiple mobile commerce applications to include voice and data requiring flexible billing systems that provide a real-time rate engine, and scalability.
- Luttge, K., "E-charging API: Outsource Charging to a Payment Service Provider", IEEE-Conference, 2001, 216-222. Reference discusses various methods of charging for content or application usage. Specifically how content servers or application hosts can delegate the charging process to a payment service provider.

Art Unit: 4143

22. Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Kimberly L. Evans** whose telephone number is **571.270.3929**. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **James A. Reagan** can be reached at **571.272.6710**.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see [<http://portal.uspto.gov/external/portal/pair>](http://portal.uspto.gov/external/portal/pair). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free). Any response to this action should be mailed to: **Commissioner of Patents and Trademarks, Washington, D.C. 20231** or faxed to **571-273-8300**. Hand delivered responses should be brought to the **United States Patent and Trademark Office Customer Service Window**: Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

/Kimberly Evans/Examiner, Art Unit 4143

December 5, 2007

/James A. Reagan/Supervisory Patent Examiner, Art Unit 4143